

**AMENDMENTS TO THE CLAIMS:**

1 - 15. (Cancelled)

16. (New) An electronic document disclosure method comprising the steps of:  
dividing an electronic document into a plurality of constituent elements;  
creating data in which hash values respectively calculated on the plurality of constituent elements by means of a cryptographic hash function are bound to the respective plurality of constituent elements;

creating a disclosure object document by affixing an electronic signature to the bound data;

creating a disclosure document in which information not to be disclosed is omitted from the disclosure object document; and

further affixing another signature generated by using a private key which is different from the private key used when the electronic signature is affixed to the disclosure document.

17. (New) An electronic document method comprising the steps of:  
dividing an electronic document into a plurality of constituent elements;  
generating and binding random-numbers to the respective constituent elements;  
creating data in which hash values respectively calculated on the plurality of random-numbered constituent elements by means of a cryptographic hash function are bound to the respective plurality of random-numbered constituent elements;

creating a disclosure object document by affixing an electronic signature to the bound data;

creating a disclosure document in which information not to be disclosed is omitted from the disclosure object document; and

further affixing another signature generated by using a private key which is different from the private key used when the electronic signature is affixed to the disclosure document.

18. (New) An electronic document disclosure system comprising:

an original document creator unit which divides an electronic document into a plurality of constituent elements, creates data by combining each of the plurality of constituent elements and each of hash values respectively calculated on the each of the plurality of constituent elements by means of a cryptographic hash function, creates a disclosure object document in which an electronic signature of an original document creator is affixed to the combined data, and stores the resultant electronic document into a document management unit;

a disclosure document creator unit which takes out the disclosure object document from the document management unit, at the time of acceptance of an information disclosure request, omits information not to be disclosed from the disclosure object document, creates another signature generated by a private key which is different from the private key used for affixing an electronic signature of the original document creator, and sends the disclosure document to a recipient unit; and

the recipient unit which verifies a signature of the original document creator at the time of acceptance of the disclosure document which is made published.

19. (New) The electronic document disclosure system according to claim 18, wherein the recipient unit further verifies the signature of the another signature at the time of acceptance of the disclosure document which is made published.

20. (New) An electronic document disclosure system comprising:

an original document creator unit which divides an electronic document into a plurality of constituent elements, generates and binds random-numbers to the respective plurality of

constituent elements, creates data in which hash values respectively calculated on a plurality of random-numbered constituent elements by means of a cryptographic hash function are bound to the respective plurality of random-numbered constituent elements, creates a disclosure object document which is affixed with an electronic signature of an original document creator in accordance with the combined data and stores the resultant electronic document into a document management unit;

a disclosure document creator unit which takes out the disclosure object document from the document management unit, at the time of acceptance of an information disclosure request, omits information not to be disclosed from the disclosure object document, creates another signature generated by a private key which is different from the private key used for affixing an electronic signature of the original document creator, and sends the disclosure document to a recipient unit; and

the recipient unit which verifies a signature of the original document creator at the time of acceptance of the disclosure document which is made published.

21. (New) The electronic document disclosure system according to claim 20, wherein the recipient unit further verifies the signature of the another signature at the time of acceptance of the disclosure document which is made published.

22. (New) An electronic document redacting system comprising:

a first electronic calculator executing a first program which creates a disclosure object electronic document including at least an original electronic document comprising a plurality of constituent elements and authenticity assurance data; and

a second electronic calculator executing a second program which creates a disclosure electronic document by implementing a redacting process to the disclosure object electronic document,

wherein the first electronic calculator implements the first program and executes a series of processes comprising:

(a) a process which creates additional redacted control data with respect to each of the constituent elements of the original electronic document and calculates a hash value by means of an input of the additional redacted control data as a cryptographic hash function as well as calculating a hash value by means of an input of the constituent element as a cryptographic hash function;

(b) a process which creates one electronic signature of the disclosure object electronic document creator by means of the hash values calculated by the process (a);

(c) a process which creates the authenticity assurance data including the additional redacted control data created by the process (a) and the electronic signature, and

(d) a process which creates the disclosure object electronic document including the original electronic document and the authenticity assurance data; and

wherein the second electronic calculator implements the second program and executes a series of processes comprising:

(e) according to the plurality of the constituent elements constituting the original electronic document, a process which checks a presence of any redacted constituent element which is made redacted and a disclosure constituent element which is prohibited to be an additional redacted process;

(f) according to each of the redacted constituent elements, a process which calculates a hash value by means of an input of the redacted constituent element as the cryptographic hash function as well as calculating a hash value by means of an input of the additional redacted control data of the authenticity assurance data corresponding to each of disclosure elements which prohibits the additional redacted process;

(g) a process which creates a second authenticity assurance data, which is an updated version of the authenticity assurance data, by including the hash value calculated in accordance with the redacted constituent element into the authenticity assurance data and substituting the additional redacted control data of the authenticity assurance data corresponding to disclosure constituent element which prohibits the additional redacted process into the corresponding calculated hash value, and

(h) a process which creates a disclosure electronic document including the constituent element of the original electronic document except the redacted constituent element and the second authenticity assurance data.

23. (New) The electronic document redacting system according to claim 22, further comprising:

a third electronic calculator, wherein the third electronic calculator implements a third program and executes a series of processes comprising:

a process which checks a presence of an additional redacted constituent element which executes an additional redacted process in accordance with the disclosure constituent element of the disclosure electronic document;

a process which calculates a hash value by means of an input of the additional redacted constituent element as a cryptographic hash function in accordance with each of the additional disclosure constituent elements;

a process which creates a third authenticity assurance data by including the hash value calculated in accordance with the additional redacted constituent element into the second authenticity assurance data, and

a process which creates a second disclosure electronic document including the constituent element of the disclosure electronic document except the additional redacted constituent elements and the third authenticity assurance data.

24. (New) The electronic document redacting system according to claim 23, wherein the third electronic calculator implements the third program and executes a series of processes further comprising:

a process which checks a presence of disclosure constituent element which prohibits further additional redacted process in accordance with the disclosure constituent element of the disclosure electronic document,

a process which calculates a hash value by means of an input of a disclosure constituent element which prohibits the further additional redacted process in accordance with each of the disclosure constituent elements which prohibit the further additional redacted process as the cryptographic hash function,

a process which updates a third authenticity assurance data comprising the hash value calculated in accordance with a disclosure constituent element which prohibits the further additional redacted process into the third authenticity assurance data,

a process which updates the second disclosure electronic document by updating the third authenticity assurance data comprised into the second disclosure electronic document.

25. (New) The electronic document redacting system according to either claim 22 or claim 24, wherein the first electronic calculator implements the first program and executes a series of processes further comprising:

a process which creates random-numbers respectively different from one another as the additional redacted control data.

26. (New) The electronic document redacting system according to claim 22, wherein the first electronic calculator implements the first program and executes a series of processes further comprising:

a process which creates random-numbers different from the further additional redacted control data according to each of the constituent elements of the original electronic document in the process (a) and makes the created random-numbers as an input of the cryptographic hash function by combining with the constituent element.

27. (New) The electronic document redacting system according to claim 25, wherein the first electronic calculator implements the first program and executes a series of processes further comprising:

a process which creates further random-numbers different from the further additional redacted control data according to each of the constituent elements of the original electronic document in the process (a) and makes the further created random-numbers as an input of the cryptographic hash function by combining with the constituent element.

28. (New) The electronic document redacting system according to claim 22, wherein the second electronic calculator comprises a display unit or a printer and implements the second program and executes a series of processes further comprising:

a process which displays information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document on a screen of the display unit, and

a process which prints information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document to medium by the printer.

29. (New) The electronic document redacting system according to claim 26, wherein the second electronic calculator comprises a display unit or a printer and implements the second program and executes a series of processes further comprising:

a process which displays information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document on a screen of the display unit, and

a process which prints information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document to medium by the printer.



30. (New) The electronic document redacting system according to claim 27, wherein the second electronic calculator comprises a display unit or a printer and implements the second program and executes a series of processes further comprising:

a process which displays information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document on a screen of the display unit, and

a process which prints information indicated by the plurality of disclosure constituent elements constituting the disclosure electronic document and information indicating redaction, which replaced the redacted constituent element of the original electronic document to medium by the printer.